TOPOLOGY

VOLUME CONTENTS AND AUTHOR INDEX
VOLUME 40, 2001

PERGAMON

TOPOLOGY

An International Journal of Mathematics founded by J. H. C. Whitehead

Editors

Professor M. R. Bridson
Professor N. J. Hitchin
Professor I. M. James
Professor F. C. Kirwan
Professor D. Quillen
Professor G. B. Segal

The Mathematical Institute, 24–29 St. Giles,
Oxford OX1 3LB, England. *E-mail*: topology@maths.ox.ac.uk

Professor Ralph Cohen, Stanford University, Stanford, CA 94305, U.S.A.

Professor F. Hirzebruch, Max-Planck-Institut für Mathematik, Vivatsgasse 7, D-53111 Bonn, Germany

Professor Jean Lannes, Centre de Mathématiques, Ecole Polytechnique, 91128 Palaiseau Cedex, France

Professor John Roe, Department of Mathematics, Penn State University, University Park, PA 16802, U.S.A.

Honorary Editorial Advisory Board

V. I. Arnol'd, S. Donaldson, J. W. Milnor, R. Bott, I. M. Gel'fand, H. Cartan, B. Lawson, J.-P. Serre

Author Service Department

For queries relating to the general submission of articles (including electronic text and artwork) and the status of accepted manuscripts, please contact the Author Service Department: e-mail: authors@elsevier.co.uk; Fax: + 44 (0) 1865 843905; Tel.: + 44 (0) 1865 843900.

Frequency: 6 issues per annum in January, March, May, July, September and November

Publication information: Topology (ISSN 0040-9383). For 2000, volume 39 is scheduled for publication. Subscription prices are available upon request from the Publisher or from the Regional Sales Office nearest you or from this journal's website (http://www.elsevier.nl/locate/top). Further information is available on this journal and other Elsevier Science products through Elsevier's website: (http://www.elsevier.nl). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

Orders, claims, and product enquiries: please contact the Customer Support Department at the Regional Sales Office nearest you:

New York: Elsevier Science, PO Box 945, New York, NY 10159-0945, USA; phone: (+1) (212) 633 3730 [toll free number for North American customers: 1-888-4ES-INFO (437-4636)]; fax: (+1) (212) 633 3680; e-mail: usinfo-f@elsevier.com

Amsterdam: Elsevier Science, PO Box 211, 1000 AE Amsterdam, The Netherlands; phone: (+31) 20 4853757; fax: (+31) 20 4853432; e-mail: nlinfo-f@elsevier.nl

Tokyo: Elsevier Science, 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106-0044, Japan; phone: (+81) (3) 5561 5033; fax: (+81) (3) 5561 5047; e-mail: info@elsevier.co.jp

Singapore: Elsevier Science, No. 1 Temasek Avenue, #17-01 Millenia Tower, Singapore 039192; phone: (+65) 434 3727; fax: (+65) 337 2230; e-mail: asiainfo@elsevier.com.sg

Rio de Janeiro: Elsevier Science, Rua Sete de Setembro 111/16 Andar, 20050-002 Centro, Rio de Janeiro-RJ, Brazil; phone: (+55) (21) 509 5340; fax: (+55) (21) 507 1991; e-mail: elsevier@campus.com.br [Note (Latin America): for orders, claims and help desk information, please contact the Regional Sales Office in New York as listed above].

© *2001 Elsevier Science Ltd. All rights reserved*

Periodicals postage is paid at Rahway, New Jersey. Topology (ISSN 0040-9383) is published 6 issues per annum, in January, March, May, July, September and November by Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK. The annual subscription in the USA is $1,303.00.

Topology is circulated by Mercury International Limited, 365 Blair Road, Avenel, NJ 07001, USA.

POSTMASTER: Please send address corrections to: Topology, c/o Customer Services, Elsevier Science Inc., 655 Avenue of the Americas, New York, NY 10010, USA.

PII: S0040-9383(01)00031-3

CONTENTS

NUMBER 1

STEFAN SCHWEDE: Stable homotopy of algebraic theories 1

MICHAEL A. MANDELL: E_∞ algebras and p-adic homotopy theory 43

TIM D. COCHRAN and PAUL MELVIN: Quantum cyclotomic orders of 3-manifolds 95

M. ANDO and N.P. STRICKLAND: Weil pairings and Morava K-theory . . . 127

TOBIAS EKHOLM: Differential 3-knots in 5-space with and without self-intersections 157

ANNKE BART: Surface groups in some surgered manifolds 197

NUMBER 2

TOSHIYUKI AKITA: Homological infiniteness of Torelli groups 213

NORIO IWASE: Co-H-spaces and the Ganea conjecture 223

MICHAEL FARBER: Topology of closed 1-forms and their critical points . . 235

VIOREL NIŢICĂ and ANDREI TÖRÖK: An open dense set of stably ergodic diffeomorphisms in a neighborhood of a non-ergodic one 259

MASSIMO GOBBINO: Topological properties of attractors for dynamical systems 279

MICHAEL JOACHIM: A symmetric ring spectrum representing KO-theory . 299

NATHAN M. DUNFIELD: A table of boundary slopes of Montesinos knots 309

PO HU and IGOR KRIZ: Real-oriented homotopy theory and an analogue of the Adams–Novikov spectral sequence 317

JOHN D. MCCARTHY: On the first cohomology group of cofinite subgroups in surface mapping class groups 401

HELLEN COLMAN and ENRIQUE MACIAS-VIRGÓS: Transverse Lusternik–Schnirelmann category of foliated manifolds 419

Addendum

DAISUKE MATSUSHITA: On fibre space structures of a projective irreducible symplectic manifold 431

NUMBER 3

TAKASHI NISHIMURA: Criteria for right–left equivalence of smooth map-germs 433

MUSTAFA KORKMAZ: On endomorphisms of surface mapping class groups 463

MASAAKI YOSHIDA: A hyperbolic structure on the real locus of the moduli space of marked cubic surfaces 469

S. ARANSON, V. GRINES and E. ZHUZHOMA: On Anosov–Weil problem . . . 475

SÉRGIO FENLEY and LEE MOSHER: Quasigeodesic flows in hyperbolic 3-manifolds 503

IAN J. LEARY and BRITA E. A. NUCINKIS: Every CW-complex is a classifying space for proper bundles 539

STEWART BALDWIN: Entropy estimates for transitive maps on trees 551

DAVIDE P. CERVONE: A tight polyhedral immersion of the twisted surface of Euler characteristic -3 571

WOLFGANG LÜCK and BOB OLIVER: The completion theorem in K-theory for proper actions of a discrete group 585

THOMAS DELZANT and LEONID POTYAGAILO: Accessibilité hiérarchique des groupes de présentation fine 617

JOHN HEMPEL: 3-Manifolds as viewed from the curve complex 631

NUMBER 4

M. OZAWA: Additivity of free genus of knots 659

JENS FRANKE: On the Brown representability theorem for triangulated categories 667

JOHN SHARESHIAN: Discrete Morse theory for complexes of 2-connected graphs 681

SYLVAIN GERVAIS: A finite presentation of the mapping class group of a punctured surface 703

OGUZ C. DURUMERIC: Geometric finiteness in large families in dimension 3 727

C. DE CONCINI, C. PROCESI and M. SALVETTI: Arithmetic properties of the cohomology of braid groups. 739

MARIO CASELLA and WOLFGANG KÜHNEL: A triangulated K3 surface with the minimum number of vertices 753

CYNTHIA L. CURTIS: An intersection theory count of the $SL_2(\mathbb{C})$-representations of the fundamental group of a 3-manifold 773

HANS-JOACHIM BAUES and YURI DROZD: Classification of stable homotopy types with torsion-free homology 789

PETER B. GOTHEN: Components of spaces of representations and stable triples 823

ALEXANDER LUBOTZKY and ROBERT J. ZIMMER: Arithmetic structure of fundamental groups and actions of semisimple Lie groups. 851

NUMBER 5

SOLOMON M. JEKEL: Vanishing powers of the Euler class 871

C. MACLACHLAN and G.J. MARTIN: The non-compact arithmetic generalised triangle groups 927

DON ZAGIER: Vassiliev invariants and a strange identity related to the Dedekind eta-function 945

ELISA PRATO: Simple non-rational convex polytopes via symplectic geometry 961

MARGARIDA MENDES LOPES and RITA PARDINI: A connected component of the moduli space of surfaces with $p_g = 0$ 977

DAVID BLANC: Realizing coalgebras over the Steenrod algebra 993

PAUL SCHMUTZ SCHALLER: A systolic geometric cell decomposition for the space of once-holed Riemann surfaces of genus 2 1017

FRÉDÉRIC LE ROUX: Etude topologique de l'espace des homéomorphismes de Brouwer, I 1051

FRÉDÉRIC LE ROUX: Etude topologique de l'espace des homéomorphismes de Brouwer, II 1089

Erratum 1123

NUMBER 6

KIYOSHI IGUSA and KENT E. ORR: Links, pictures and the homology of nilpotent groups 1125

N.P. STRICKLAND: Chern approximations for generalised group cohomology 1167

FRANÇOISE MICHEL and CLAUDE WEBER: On the monodromies of a polynomial map from C^2 to C 1217

MARC BONINO: A dynamical property for planar homeomorphisms and an application to the problem of canonical position around an isolated fixed point 1241

WEN-HSIUNG LIN: Non-neutrality of the Stiefel manifolds $V_{n,k}$ II 1259

INKANG KIM: Marked length rigidity of rank one symmetric spaces and their product 1295

KŌJUN ABE and KAZUHIKO FUKUI: On the structure of the group of equivariant diffeomorphisms of G-manifolds with codimension one orbit 1325

J. DANIEL CHRISTENSEN, BERNHARD KELLER and AMNON NEEMAN: Failure of Brown representability in derived categories 1339

A. EL KACIMI ALAOUI, G. GUASP and M. NICOLAU: On deformations of transversely homogeneous foliations 1363

BENSON FARB and MICHAEL WOLF: Harmonic splittings of surfaces 1395

THOMAS FIEDLER: Isotopy invariants for smooth tori in 4-manifolds ... 1415